



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

APPROVAL FOR REMEDIAL USE

Pursuant to Title, 310 CMR 15.00

Name and Address of Applicant:

Stephen B. Nelson
Clearwater Recovery
175 Spring Street
Rockland, MA 02370

Trade name of technology and model: "JET" Home Aerobic Wastewater System 1500 Series Media Plants Models: J-500 (formerly J-353), J-750, Jet-1000, Jet-1250 and Jet-1500 (hereinafter called the "System")

Date of Application: February 17, 1998
Transmittal Number: 135486
Date of Issuance: 4/30/01
Expiration date: 4/30/06

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental, Protection hereby issues this Draft Approval for Remedial Use to: Stephen Nelson, Clearwater Recovery, 175 Spring Street, Rockland, MA 02370 (hereinafter "the Company"), approving the System described herein for Remedial Use in the Commonwealth of Massachusetts. Sale and use of the System are conditioned on compliance by the Company and the System owner/operator with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Approval constitutes a violation of 310 CMR 15.000.

Glenn Haas, Acting Assistant Commissioner
Bureau of Resource Protection
Department of Environmental of Protection

Date

I. Purpose

This information is available in alternate format by calling our ADA Coordinator at (617) 574-6872.

DEP on the World Wide Web: <http://www.state.ma.us/dep>

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1. The purpose of this approval is to allow use of System in Massachusetts, on a Remedial Use basis.
2. With the necessary permits and approvals required by 310 CMR 15.000, this Approval for Remedial Use authorizes the use and installation of the System in Massachusetts
3. The System may only be installed on facilities that meet the criteria of 310 CMR 15.284(2).

II. Design Standards

1. The System is an aerobic treatment system and is designed to treat the effluent from facilities with a design flow of less than 10,000 gallons per day (GPD). The System consists of a primary settling zone, aerobic treatment and a secondary clarifying zone to treat wastewater. Solids settle and scum collects in the primary chamber. The aerobic zone contains a fixed media, consisting of rigid plastic honeycomb material that encourages the growth of aerobic bacteria, which consume the organic matter in the incoming wastewater. Aerobic conditions are maintained by an aspirator, which draws in, disperses and mixes fine air bubbles throughout the aerobic zone. Clear effluent is produced in the final clarifying zone where the solids are settled back to the aeration zone. The effluent from the System is discharged to the wetwell of the pressure distribution system.
2. This Remedial Use Approval authorizes the use of the System where the local approving authority finds that the System is for upgrade of a failed, failing or nonconforming system and the design flow for the facility is less than 10,000 GPD.
3. The System Models J-500 and J-750 shall be installed in series between the building sewer and the pressure distribution system and System Models J-1000, J-1250 and J-1500 shall be installed between an approved Title 5 septic tank, equipped with an Effluent Tee Filter, and the pressure distribution chamber of the SAS of a standard Title 5 system constructed in accordance with 310 CMR 15.100 - 15.279, subject to the provisions of this Approval.
4. The System may be used in soils with a percolation rate of up to 90 minutes per inch (MPI). For soils with a percolation rate of 60 to 90 MPI, the effluent loading rate shall be 0.15 gpd / sq.ft.

III. Allowable Soil Absorption System Design

1. Reduction of the Required Soil Absorption System Size - An applicant is eligible for up to a 50 percent reduction in the area of the soil absorption system required by 310 CMR 15.242, where all of the following conditions are met. Accordingly, in approving design and installation of the System by a particular Applicant, the local approving authority may allow up to a 50 percent reduction in the area of the soil absorption system required by 319 CMR 15.242, provided that all of the following conditions are met:

- A. No reduction in the required separation (four feet in soils with a recorded percolation rate of more than two minutes per inch or five feet in soils with a recorded percolation rate of two minutes or less per inch) between the bottom of the stone underlying the SAS and the high groundwater elevation is allowed unless such a reduction is first approved by the local approving authority and then approved by the Department pursuant to 310 CMR 15.284.
 - B. No reduction in the required four feet of naturally occurring pervious material is allowed unless the Applicant has demonstrated that the four foot requirement cannot be met anywhere on the site, that easements to adjacent property on which a system in compliance with the four foot requirement could be installed have been requested but cannot be obtained, and that a shared system is not feasible. Any such reduction must first be approved by the local approving authority and then approved by the Department pursuant to 310 CMR 15.284.
 - C. Where full compliance with all of the minimum set back distances in 310 CMR 15.211 is not feasible, the local approving authority may allow a reduction under a local upgrade approval in accordance with 310 CMR 15.405 (1) (a), (b), (f), (g), and (h).
 - D. Where full compliance with all of the minimum set back distances in 310 CMR 15.211 is not feasible, even taking into account provisions for local upgrade approval as described above, then pursuant to 310 CMR 15.410, the applicant first must obtain variance(s) from the local approving authority and then approval of the Department.
2. Reduction of the Required Separation Distance to High Groundwater Elevation - An Applicant is eligible for a reduction in separation (four feet in soils with a recorded percolation rate of more than two minutes per inch or five feet in soils with a recorded percolation rate of two minutes or less per inch) between the bottom of the stone underlying the SAS and the high groundwater elevation, where all of the following conditions are met. Accordingly, in approving design and installation of the System by a particular Applicant, the local approving authority may allow a reduction in the required separation (four feet in soils with a recorded percolation rate of more than two minutes per inch or five feet in soils with a recorded percolation rate of two minutes or less per inch) between the bottom of the stone underlying the SAS and the high groundwater elevation, provided that all of the following conditions are met:
- A. A minimum two foot separation (in soils with a recorded percolation rate of more than two minutes per inch) or a minimum three foot separation (in soils with a recorded percolation rate of two minutes or less per inch) between the bottom of the stone underlying the SAS and the high groundwater elevation is maintained.
 - B. No reduction in the required SAS size is allowed unless such a reduction is first approved by the local approving authority and then approved by the Department pursuant to 310 CMR 15.284.
 - C. No reduction in the required four feet of naturally occurring pervious material is allowed unless the Applicant has demonstrated that the four foot requirement cannot be met

- anywhere on the site, that easements to adjacent property on which a system in compliance with the four foot requirement could be installed have been requested but cannot be obtained, and that a shared system is not feasible. Any such reduction must first be approved by the local approving authority and then approved by the Department pursuant to 310 CMR 15.284.
- D. Where full compliance with all of the minimum set back distances in 310 CMR 15.211 is not feasible, the local approving authority may allow a reduction under a local upgrade approval in accordance with 310 CMR 15.405 (1) (a), (b), (f), (g), and (h).
- E. Where full compliance with all of the minimum set back distances in 310 CMR 15.211 is not feasible, even taking into account provisions for local upgrade approval as described above, then pursuant to 310 CMR 15.410, the applicant first must obtain variance(s) from the local approving authority and then approval of the Department.
3. Reduction of the Requirement for Four Feet of Naturally Occurring Pervious Material – An Applicant is eligible for a reduction in the required four feet of naturally occurring pervious material in an area of no less than two feet of naturally occurring pervious material, where all of the following conditions are met. Accordingly, in approving design and installation of the System by a particular Applicant, the local approving authority may allow a reduction in the required four feet of naturally occurring pervious material in an area with no less than two feet of naturally occurring pervious material, provided that all of the following conditions are met:
- A. The Applicant has demonstrated that the four foot requirement cannot be met anywhere on the site, and that easements to adjacent property on which a system in compliance with the four foot requirement could be installed have been requested but cannot be obtained, and that a shared system is not feasible.
- B. No reduction in the required SAS size is allowed unless such a reduction is first approved by the local approving authority and then approved by the Department pursuant to 310 CMR 15.284.
- C. No reduction in the required separation (four feet in soils with a recorded percolation rate of more than two minutes per inch or five feet in soils with a recorded percolation rate of two minutes or less per inch) between the bottom of the stone underlying the SAS and the high groundwater elevation is allowed unless such a reduction is first approved by the local approving authority and then approved by the Department pursuant to 310 CMR 15.284.
- D. Where full compliance with all of the minimum set back distances in 310 CMR 15.211 is not feasible, the local approving authority may allow a reduction under a local upgrade approval in accordance with 310 CMR 15.405 (1) (a), (b), (f), (g), and (h).
- E. Where full compliance with all of the minimum set back distances in 310 CMR 15.211 is not feasible, even taking into account provisions for local upgrade approval as described above, then pursuant to 310 CMR 15.410, the applicant first must obtain variance(s) from the local approving authority and then approval of the Department.

IV. General Conditions

1. All provisions of 310 CMR 15.000 are applicable to the use of this System, the owner and the Company, except those that specifically have been varied by the terms of this Approval.
2. Any required sample analysis shall be conducted by an independent U.S. EPA or DEP approved testing laboratory, or a DEP approved independent university laboratory. It shall be a violation of this Approval to falsify any data collected pursuant to an approved testing plan, to omit any required data or to fail to submit any report required by such plan.
3. The facility served by the System and the System itself shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.
4. In accordance with applicable law, the Department and the local approving authority may require the owner of the System to cease operation of the system and/or to take any other action as it deems necessary to protect public health, safety, welfare and the environment.
5. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sewer system. Accordingly, no System shall be installed, upgraded or expanded, if it is feasible to connect the facility to a sanitary sewer, unless as allowed by 310 CMR 15.004.
6. Design and installation shall be in strict conformance with the Company's DEP approved plans and specifications, 310 CMR 15.000 and this Approval.
7. Pressure distribution designed in accordance with Department guidance is required for all installations of the System.

V. Conditions Applicable to the System Owner

1. The System is approved for the treatment and disposal of sanitary sewage only. Any wastes that are non-sanitary sewage generated or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed.
2. Effluent discharge concentrations shall meet or exceed secondary treatment standards of 30 mg/L biochemical oxygen demand (BOD₅) and 30 mg/L total suspended solids (TSS). The effluent pH shall not vary more than 0.5 standard units from the influent water supply.
3. Operation and Maintenance Agreement:
 - A. Throughout its life, the System shall be under an operation and maintenance agreement (O&M). No O&M agreement shall be less than for one year.
 - B. No System shall be used until an O&M agreement is submitted to the Department and the local approving authority which:
 - a. provides for the contracting of a person or firm competent in providing services consistent with the System's specifications and the operation and maintenance requirements specified by the designer and those specified by the Department;

- b. contains procedures for notification to the local approving authority and the Department within five days of a System failure, malfunction or alarm event and for corrective measures to be taken immediately; and
 - c. Provides the name of the operator, which must be a Massachusetts certified operator as required by 257 CMR 2.00 that will operate and monitor the System. The operator must operate and maintain the System at least every three months and any time there is an alarm event.
- 4. The owner shall notify the Department and the local approving authority in writing within seven days of a change in the operator.
- 5. The owner of the System shall at all times have the System properly operated and maintained.
- 6. By January 31st of each year for the previous year, the System owner shall submit to the Department and the local approving authority an O&M checklist and a technology checklist, completed by the System operator for each inspection performed during the previous calendar year. A copy of the checklists are attached to this approval.
- 7. The owner shall furnish the Department any information, which the Department may request regarding the System, within 21 days of the date of receipt of that request.
- 8. The owner of the System shall record in the appropriate registry of deeds a notice that discloses the existence of this Remedial Use approved alternative system. A copy of the book and page number of the recording must be provided to the local approving authority and the Department prior to the issuance of the Certificate of Compliance.
- 9. The owner of the System shall provide a copy of this Approval, prior to the signing of a purchase and sale agreement for the facility served by the System or any portion thereof, to the proposed new owner.
- 10. Effluent from the System serving a facility with a design flow of less than 2000 GPD and both influent and effluent from systems serving a nonresidential facility with a design flow 2000 GPD to 10,000 GPD shall be monitored quarterly. At a minimum, the following parameters shall be monitored: pH, BOD₅, and TSS. The owner of the System must provide sufficient monitoring and analysis to supplement any of the Company's services provided under the "Owner Protection Program". All monitoring and operation and maintenance data shall be submitted to the local approving authority and the Department by January 31st of each year for the previous calendar year. After one year of monitoring and reporting and at the written request of the owner, the Department may reduce the monitoring and reporting requirements.
- 11. When a sanitary sewer connection becomes feasible, within 60 days of such feasibility, the owner of the System shall obtain necessary permits and connect the facility served by the System to the sewer, shall abandon the System in compliance with 310 CMR 15.354, unless a later time is allowed, in writing, by the local approving authority, and shall in writing notify the Department of the abandonment.

VI. Conditions Applicable to the Company

- 1. By January 31st of each year, the Company shall submit to the Department, a report, signed by a corporate officer, general partner or Company owner that contains information on the

System, for the previous calendar year. The report shall state: for each model, the number of units of the System sold for use in Massachusetts including the installation date and date of start-up during the previous year; the address of each installed System, the owner's name and address, the type of use (e.g. residential, commercial, school, institutional) and the design flow; and for all Systems installed since the date of issuance of this Approval, all known failures, malfunctions, and corrective actions taken and the address of each such event.

2. The Company shall notify the Director of the Watershed Permitting Program at least 30 days in advance of the proposed transfer of ownership of the technology for which this Approval is issued. Said notification shall include the name and address of the proposed new owner and a written agreement between the existing and proposed new owner containing a specific date for transfer of ownership, responsibility, coverage and liability between them. All provisions of this Approval applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
3. The Company shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
4. Prior to its sale of the System, the Company shall provide the purchaser with a copy of this Approval. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of the System, prior to any sale of the System, with a copy of this Approval.
5. If the Company wishes to continue this Approval after its expiration date, the Company shall apply for and obtain a renewal of this Approval. The Company shall submit a renewal application at least 180 days before the expiration date of this Approval, unless written permission for a later date has been granted in writing by the Department.
6. At the time of sale of the System, the company shall provide the purchaser of the System an installation manual.

VII. Reporting

1. All notices and documents required to be submitted to the Department by this Approval shall be submitted to:

Director
Watershed Permitting Program
Department of Environmental Protection
One Winter Street - 6th floor
Boston, Massachusetts 02108

VIII. Rights of the Department

1. The Department may suspend, modify or revoke this Approval for cause, including, but not limited to, non-compliance with the terms of this Approval, non-payment of the annual compliance assurance fee, for obtaining the Approval by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Approval, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect

to this Approval and/or the System against the owner, or operator of the System and/or the Company.

IX. Expiration Date

1. Notwithstanding the expiration date of this Approval, any System sold and installed prior to the expiration date of this Approval, and approved, installed and maintained in compliance with this Approval (as it may be modified) and 310 CMR 15.000, may remain in use unless the Department, the local approving authority, or a court requires the System to be modified or removed, or requires discharges to the System to cease.

135486 JET Home Aeration Wastewater Treatment System